IN THE CLAIMS

This listing of claims replaces all prior versions and listings of the claims in the above-referenced application.

1. (Previously Presented) A light-emitting device comprising:

a heterostructure of III-nitride materials comprising an active region having a peak emission wavelength, an n-layer, and a p-layer;

a p- and an n-electrode, the p-electrode being attached to the p-layer, the n-electrode being attached to the n-layer, wherein the p-electrode and n-electrode are attached to a same side of the light emitting device; and

a superstrate, having a refractive index greater than a refractive index of sapphire, attached to the heterostructure.

2. (Original) A light-emitting device, as defined in claim 1, wherein the superstrate has an absorption coefficient less than 3 cm^{-1} at the peak emission wavelength.

3. (Original) A light-emitting device, as defined in claim 1, wherein the p-electrode has an absorption less than 25%.

4. (Original) A light-emitting device, as defined in claim 1, wherein at least one of the layers comprising the heterostructure is textured.

5. (Original) A light-emitting device, as defined in claim 1, wherein the superstrate is selected from a group that includes SiC, ZnO, YAG, ZnSe, ZnS, zirconia, diamond, and CdS.

6. (Original) A light-emitting device, as defined in claim 5, wherein the superstrate is SiC and has a resistivity greater than 0.5 Ω cm.

7. (Original) A light-emitting device, as defined in claim 1, wherein at least one surface of the superstrate is roughened.

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8. (Original) A light-emitting device, as defined in claim 1, wherein a top surface area of the superstrate is larger than a bottom surface area of the superstrate.

9. (Original) A light-emitting device, as defined in claim 1, wherein a portion of the p-electrode interposes portions of the n-electrode.

10. (Original) A light-emitting device, as defined in claim 1, wherein the p-electrode comprises $Au/NiO_x/Al$.

11. (Original) A light-emitting device, as defined in claim 1, wherein light is extracted from the active region through the superstrate.

12. (Original) A light-emitting device, as defined in claim 1, further comprising:

a submount;

an n-interconnect connecting the n-electrode to the submount; and

a p-interconnect connecting the p-electrode to the submount.

13. (Original) A light-emitting device, as defined in claim 12, wherein the n-interconnect and p-interconnect are selected from the group consisting of solder, elemental metals, metal alloys, semiconductor-metal alloys, thermally and electrically conductive pastes, thermally and electrically conductive compounds, epoxies, eutectic joints, Au stud-bumps, and solder bumps.

14. (Original) A light-emitting device, as defined in claim 12, further comprising:

a p-conductive interface disposed between the p-interconnect and the p-electrode; and

an n-conductive interface disposed between the n-interconnect and the n-electrode.

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15. (Original) A light-emitting device, as defined in claim 14, wherein the p-conductive interface and the n-conductive interface comprise wettable metals.

16. (Previously Presented) A light-emitting device, as defined in claim 14, wherein the lateral cross sectional area of the n-conductive interface and the p-conductive interface is at least 15% of an area of the p-electrode.

17. (Original) A light-emitting device, as defined in claim 14, further comprising a barrier layer disposed between the p-electrode and the p-conductive interface.

18. (Original) A light-emitting device, as defined in claim 17, wherein the barrier layer is selected from the group consisting of Ni, Cr, Cu, and Ti.

19. (Original) A light-emitting device, as defined in claim 12, wherein the submount comprises a material selected from the group consisting of Si, AlN, and BeO.

20. (Original) A light-emitting device, as defined in claim 12, wherein the submount has a thickness less than 250 μm.

21. (Previously Presented) A light-emitting device, as defined in claim 1, wherein the superstrate is SiC.

22. (Previously Presented) A light-emitting device, as defined in claim 1, wherein the superstrate has an index of refraction greater than an index of refraction of at least one of the n-layer and the p-layer.

23. (New) A light-emitting device, as defined in claim 1, wherein at least one surface of the superstrate is textured.

24. (New) A light-emitting device, as defined in claim 23, wherein the texturing is random.

25. (New) A light-emitting device, as defined in claim 23, wherein the texturing is ordered.

26. (New) A light-emitting device, as defined in claim 1, wherein the superstrate comprises a light-randomizing surface.

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27. (New) A light-emitting device, as defined in claim 26, wherein the light-randomizing surface is formed by sawing.

28. (New) A light-emitting device, as defined in claim 26, wherein the light-randomizing surface is formed by etching.

29. (New) A light-emitting device, as defined in claim 1, wherein the superstrate is shaped.

30. (New) A light-emitting device, as defined in claim 29, wherein the shape of the superstrate is selected to increase extraction of light from the superstrate.

31. (New) A light-emitting device, as defined in claim 1, wherein the superstrate comprises:

a first surface; and

a second surface substantially parallel to the first surface; wherein an area of the first surface is smaller than an area of the second surface.

32. (New) A light-emitting device, as defined in claim 31, wherein the superstrate further comprises a third surface angled with respect to the first surface and the second surface, wherein the third surface connects an edge of the first surface to an edge of the second surface.

33. (New) A light-emitting device, as defined in claim 31, wherein the first surface is adjacent to the heterostructure.

34. (New) A light-emitting device, as defined in claim 1, wherein the superstrate comprises:

a first surface in contact with the heterostructure; and

a second surface angled with respect to the first surface.

35. (New) A light-emitting device, as defined in claim 34, wherein an angle between the second surface and the first surface is obtuse.

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36. (New) A light-emitting device, as defined in claim 34, wherein the second surface is non-normal to the first surface.

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